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USSR Report

INDUSTRIAL AFFAIRS

No. 506

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CONTENTS	PAGE
CHEMICAL INDUSTRY AND RELATED EQUIPMENT	
Transport Problems at Apatit Association Discussed (L. Tsvetkov; SOTSIALISTICHESKAYA INDUSTRIYA, 3 Jun 79)	1
Construction Delays at Krasnodar Chemical Plant Scored (A. Kuteynikov, et al.; SOTSIALISTICHESKAYA INDUSTRIYA, 22 Jun 79)	4
Polypropylene Plant Construction Delays (N. Manuylov; EKONOMICHESKAYA GAZETA, Jul 79)	7
Port Complex at Odessa--Construction Progress (V. V. Mozhayev; PROMYSHLENNNOYE STROITEL'STVO, No 7, 1979)	8
Fertilizer Complex Goes Into Operation at Sumgait (VYSHKA, 26 Jul 79)	10
USSR Chemical Industry Ministry Responds to Criticism (IZVESTIYA, 19 Jul 79)	11
Potassium Plant Problems (SOTSIALISTICHESKAYA INDUSTRIYA, 14 Aug 79)	12
Fertilizer Complex at Rustavi Lagging Behind in Expansion (I. Vorontsov, A. Krichevskiy; PRAVDA, 25 Jul 79)	13
Briefs	
Ammonia Pipeline Construction	15
Liquid Paraffin Unit	15
Paraffin Production Facility	15
Odessa Port Plant	15

CONTENTS (Continued)	Page
Ammonia Unit Completed	16
Sulfuric Acid Complex	16
Ammonia Production	16
Carbamide Complex	16
By-Product Coke Plant	17
Polish Sulfuric Acid to USSR	17
CONSTRUCTION, CONSTRUCTION MACHINERY AND BUILDING MATERIALS	
Setting of Norms for Working Capital of Contracting Organizations	
(R. M. Azamatova; FINANSY SSSR, Jul 79)	18
METALLURGY	
Reducing Metal Wastes Through Silicon Carbide	
(I. Zhabin, L. Tager; PRAVDA, 1 Aug 79)	26
METALWORKING EQUIPMENT	
Briefs	
West German Mill for USSR	28

TRANSPORT PROBLEMS AT APATIT ASSOCIATION DISCUSSED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 3 Jun 79 p 2

[Article by L. Tsvetkov, Murmansk-Leningrad-Moscow: "A Distorted Balance"]

[Text] The five mines, two concentration factories and auxiliary shops and services of the Apatit Association have 16,000 workers. The largest enterprise of this specialization in the world, it is set up so that it does not have to be ashamed of its organization. A total of 100.7, 100.8 and 100.1 percent--this was the fulfillment of the assignments for the production of the apatite concentrate during the first 3 years of the current five-year plan. The same is also characteristic of previous years. Any economist, glancing at such a "cardiogram," will wish every subsector such prosperity as in the phosphate fertilizer industry.

He will be wrong. The Khibiny "heart" ensures the vital activity of 30 Soviet plants. During the same 3 years of the 10th Five-Year Plan they failed to receive 320,000, 285,000 and 192,500 tons of the concentrate respectively. The point is that the technology of Apatit is strictly connected with the railroad car. If there is no place where the concentrate can be unloaded, the association can operate only for about 2 days. During this time all the capacities of the warehouse for finished output are filled and it is necessary either to get rid of the "superfluous" concentrate by unlawful means, or to stop production. Both variants were used more than once.

The latest serious attack of the transport ailment occurred during the first quarter of this year. Owing to the shortage of the rolling stock it was not possible to send 238,000 tons of products to consumers. What was the matter? For the transport of the concentrate the industry manufactured more than 3,000 special apatite carriers. Now one out of three is not used according to its direct purpose. A total of 200 carriers are standing idle pending repairs (the railroad car management service of the Ministry of Railways and the Barnaul Repair Plant are responsible for this) and 900 carriers were completely lost: They transported apatite beyond the boundaries of the October Railroad and did not return.

The shortage of apatite carriers is compensated with ordinary covered railroad cars. This replacement is not equivalent. They are not convenient for loading and unloading. Most importantly, they must be repaired endlessly. In violation of the rules railroad workers pass the empty railroad car that gets out of order along from one to the other, but the northerners cannot transfer it anywhere, because the railroad ends there. The small violations add up to a big problem. It is necessary to build a whole enterprise for the repair of the rolling stock. Every month now about 250 cubic meters of board and beam are cut and more than 1 ton of nails are driven into them--imagine how much manual labor is needed.

Of course, Kola transport workers also have their own unfinished work. For example, it is necessary to more actively introduce unified work techniques with miners and to dispatch more purposeful trains, which will not have to be reshuffled en route. The commission from the Ministry of Railways and the Ministry of Chemical Industry that worked in April indicated such potentials to them.

Unfortunately, having outlined the solution of individual problems, the commission did not put on the agenda the central problem--the need to develop a general transport scheme for the conveyance of the apatite concentrate, although the management of the association and the oblast party committee appealed to central bodies for this more than once.

In order to somewhat free the overloaded railroad trunk lines, the superior Medvezh'yegorsk river port was built in Karelia. Right now it is ready to transport approximately one-tenth of the annual concentrate production by waterways. In fact, however, the year before last 1.5 percent were reloaded to ships and last year, 2 percent. Most places of destination have no equipped unloading wharves. Moreover, consumer plants have a shortage of capacities during the mass arrival of the concentrate.

The responsibility for regulating such problems was placed on the Interdepartmental Commission for the Rationalization of Freight Transport operating in the Union State Planning Committee and in the State Committee for Material and Technical Supply. The commission's studies envisaged that during the current five-year plan 1,350,000 tons of the apatite concentrate would be annually dispatched by water. However, the transport of only 350,000 tons, that is, 1 million less, is planned for the current year.

From where was this figure taken?

Workers of the October Railroad made the proposal to transfer more than 1,200,000 tons from wheels to ships during this navigational season. The Ministry of Railways increased this figure to 1,330,000. Both authors of the proposals cited head swirling data on the economic effect that this would give the national economy, but they said nothing about what this would give the railroad itself. When the load is reduced, will it be able to transport the remaining concentrate without hindrance? I asked the freight service of the October Railroad for explanations. A. Karamyshev, deputy

chief, made a helpless gesture. We went together to N. Sinilin, deputy chief of the railroad--the same result. Nor could the reason why the railroad not only can, but absolutely must be, relieved of the transportation of such an amount of the concentrate be found in the Ministry of Railways. It turns out that the principle "offer more, since this does not obligate you to anything" was followed.

The other participants in the discussion of the draft of the annual assignment, that is, the RSFSR Ministry of River Fleet, the republic State Planning Committee, the Ministry of Chemical Industry and the Institute of Overall Transport Problems under the USSR State Planning Committee, acted in the same way. No one wanted to be a retrograde and everyone was in favor of the rationalization of freight transport within very substantial limits. However, from the maximum suggested by railroad workers everyone excluded everything that had to be reinforced with one's actions and left that for which allied workers were responsible. The suggestions were received by the work group of the Interdepartmental Commission. Although the commission was given extensive rights--its decisions are obligatory on all ministries and departments--that which was not reinforced with anything was simply cut off. Thus, the same 350,000 tons, which are still greatly removed from the figure planned for the five-year plan, were obtained.

Would such a devaluation of the five-year assignment been possible if the long-term plan had been worked out more carefully? Of course, not, because it would have been firmly established who must complete the installation of unloading places, on what routes and over what distances apatite or mineral carriers should be used so that they are not lost and to where the concentrate must be transported only in closed railroad cars.

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CSO: 1821

CHEMICAL INDUSTRY AND RELATED EQUIPMENT

CONSTRUCTION DELAYS AT KRASNODAR CHEMICAL PLANT SCORED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 22 Jun 79 p 1

[Article by the worker correspondent post of SOTSIALISTICHESKAYA INDUSTRIYA: A. Kuteynikov, leader of the brigade of carpenters and concrete layers of the Construction and Installation Administration-56, V. Krasavtsev, section chief of the Construction and Installation Administration-57 of the Krasnodarkhimstroy Trust and Ye. Klambotskiy, editor of the OGNI KAVKAZA newspaper, Belorechensk, Krasnodarskiy Kray: "To Wait in Order To Catch up"/]

[Excerpts] Today there is special tension on the vast construction site of the Krasnodar Chemical Plant near the city of Belorechensk, where the facility for the production of liquid complex fertilizers is being built. The main forces of the general contractor of the Krasnodarkhimstroy Trust and of dozens of subcontracting organizations are concentrated at the start-up project. They are among the initiators that have now expanded the labor competition for a prescheduled commissioning of projects in 60 republics, krays, oblasts and cities.

Work is now done in two shifts and the fulfillment of the daily schedule is under unabated control. This has a positive effect on construction rates. The established assignments have been greatly exceeded in the last 2 months.

Nevertheless, it cannot be considered normal that, in order to commission capacities promptly, it is necessary to divert manpower reserves and equipment from other important projects. Moreover, it is not so simple to make up for what was neglected earlier. The noticeable jolt in the last few months has not yet eliminated the previously formed builders' debt. For example, despite the positive shifts, on the whole, in 5 months the Krasnodarkhimstroy Trust fulfilled the main contract plan at the complex projects only 72 percent. Many subcontractors also did not fulfill the 5-month assignment. The organizations of the USSR Ministry of Installation and Special Construction Work fulfilled it 92 percent and of the USSR Ministry of Power and Electrification, 82 percent. Their proportion in the construction of capacities is much greater than that of the main contractor.

Exact dates for the performance of basic operations were set in the overall competition contract adopted at the beginning of this year. However, many participants in the construction project do not fulfill contractual obligations. This especially applies to the subdivisions of the Sevkavtekhmontazh and Montazhkhimzashchita trusts, through the fault of which subcontractors lag.

Nevertheless, on the whole, the currently adopted rates will be able to ensure the commissioning of capacities by 7 October—the day of the USSR Constitution. However, delays in the delivery of equipment are alarming. In the second quarter the customer—management of the chemical plant—should complete its supply in full sets. But the construction site is still short, for example, of cable and conductor output, horizontal capacities and automatic equipment.

It is also necessary to discuss the construction of capacities for the production of nitroammophoska, which are the main projects of the chemical plant. According to the envisaged plan they should be put into operation next year. The volume of construction work there exceeds the work performed at the start-up shop of the liquid fertilizer complex. Furthermore, on the construction of the facility for the production of nitroammophoska it will be necessary to perform especially complex operations for the installation of imported equipment. Meanwhile, a lag behind the plan is already evident. To this day the customer does not have technical documents for more than 28 million rubles, that is, for one-third of the volume of work. Without a construction start the situation will become complicated next year. The present experience has already confirmed the truth: There is nothing worse than waiting and catching up.

At present large-size equipment is delivered to this site. Owing to the absence of representatives of the chief installation trust, Sevkavtekhmontazh cannot begin the assembly. The late arrival of technical documents often hampers the work of another subcontractor—the Yuzhstal'konstruktsiya Trust. The main reason lies in the lack of an efficient schedule for the deliveries of equipment and presentation of technical documents. Without these schedules reinforcing the "work relay race" the efficiency of the competition for a pre-scheduled commissioning of projects in the current year and in 1980 is also lowered.

One would like to draw the attention of managers of the construction project to another bottleneck. Along with the construction of production capacities builders of the Krasnodarkhimstroy Trust must solve a number of problems connected with the establishment of their own base. In particular, they must more rapidly commission the metal structure plant and accelerate the construction of housing and projects for social and cultural purposes. Without solving these problems the trust will not be able to increase the volume of construction and installation work as will be required next year.

The Krasnodar Chemical Plant is one of the key construction projects of the five-year plan. A shop for sulfuric acid production was put into operation ahead of schedule there 2 years ago. It immediately began operating at the planned capacity--450,000 tons of raw materials annually.

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CHEMICAL INDUSTRY AND RELATED EQUIPMENT

POLYPROPYLENE PLANT CONSTRUCTION DELAYS

Moscow EKONOMICHESKAYA GAZETA in Russian No 27, Jul 79 p 6

[Article by N. Manuylov: "The Launching Is No Longer Far Off"]

[Excerpts] In the third quarter of next year the polypropylene production facility at the Tomsk Petrochemical Combine under construction should be put into operation and issue its first product. Start-up and adjustment work for the methanol production facility is planned for less than a year after this. These are very close milestones for the construction workers at the large new enterprise.

Not much time remains until the first Siberian polypropylene is obtained. The situation at the large construction project, however, so far cannot be called satisfactory. The lagging behind permitted in the initial period of constructing the combine had its effect. The planning documentation was received late and the production base--enterprises to produce the building materials and structures--was set up slowly.

This year the collectives of the subdivisions of the Khimstroy Administration--one of the main general contractors--are faced with the task of ensuring a 1.5-fold increase in the construction and installation work at the complex. Some improvements have been achieved, but still the five-month program was only 67 percent fulfilled.

The more stepped-up the assignments become, the more perceptibly revealed are the shortcomings in organization of affairs at the construction and installation sites and in the interrelations with the buyer and management of the combine being constructed.

The work rates are held back by lack of coordination in the actions of the directors of individual subdivisions of construction workers, installation workers and machine operators. For this reason, idle times for the people, as well as for the construction equipment, are often permitted. Situations like this often arise: machines are released from the construction workers but the installation workers cannot use them, even though they work at the same site.

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12151

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PORT COMPLEX AT ODESSA--CONSTRUCTION PROGRESS

Moscow PROMYSHLENNOYE STROITEL'STVO in Russian No 7, 1979 pp 9-10

[Article by V. V. Mozhayev, USSR Ministry of Industrial Construction Press Center: "The Odessa Port Plant Is Under Construction"]

[Excerpts] The output of mineral fertilizers is to be considerably increased in the 10th Five-Year Plan, and their production is to reach 143 million tons in 1980. This requires the utilization of twice as large a volume of capital investments as in the last five-year plan.

In 1976 the specially established Odeskhimstroj Trust began construction of the Odessa Port Plant, for the production, transport and storage of ammonia and superphosphoric acid.

The unique nature of this enterprise lies in the fact that the plant, along with structures for receiving, storing and transporting petroleum products, has large-tonnage ammonia production facilities.

First of all, work was begun on facilities for demineralizing the water and a primary reforming furnace, at stepped-up rates, or work at the compression division.

Installing electric power transmission lines with a power of 8000 kilowatts and a length of 6 kilometers in an extremely short time provided the construction with electric energy. At the same time, five artesian wells were drilled at the site of the future enterprise, which fully satisfied the construction project's need for water.

All the facilities of the ammonia complex were broken down into 14 units and 55 subunits, which in turn were combined into 10 subcomplexes.

Network planning by units is being carried out on the basis of the AKKORD automated control system, and the calculations for all the documentation are being made on Minsk-22 computers.

The Odessa Port Plant seemingly consists of two parts. The first includes facilities for handling chemical products (ammonia, carbamides and superphosphoric acid) with port structures, the construction of which is being carried out by the Chernomorgidrostroy Trust, and the second--all the facilities for the production of ammonia with an estimated value of 160 million rubles, including 143 million rubles worth of construction and installation work. The plant is divided into two complexes under construction, each of which is estimated for the production of 450,000 tons of ammonia a year.

The first capacity was put into operation ahead of schedule, in 1978. The deadline for putting the second capacity into operation is the end of 1979.

The use of unit network and facility work schedules, as well as the efficient work of the staffs of the construction project, made it possible for the Odeskhimstroy Trust to fulfill the 1976 program by 115 percent, and the 1977 program--by 111 percent. The actual economic saving was 107,000 rubles, with the labor input reduced by 2300 man-days.

The plan for the Odeskhimstroy Trust was fulfilled by 108.8 percent.

In 1978 at the complex the plan for the construction-installation work volume was fulfilled by 110.9 percent. Also turned over for operation were all the facilities for ancillary production of the plant's first section--the so-called small complex under construction, to produce nitrogen. There is no doubt that the second section too will be turned over for operation in the established period, which is in the third quarter of 1979. A good prerequisite for this is the fulfillment of the plan for the construction and installation work volume by 111 percent.

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FERTILIZER COMPLEX GOES INTO OPERATION AT SUMGAI

Baku VYSHKA in Russian 26 Jul 79 p 1

[Article: "A Complex Goes Into Operation"]

[Text] New mineral fertilizer production facilities have been put into operation under optimum conditions at the Sumgait Superphosphate Plant. The product obtained here fully corresponds to the state standards.

Along with the construction of the new complex, which, put into operation at the planned capacity, will enable the enterprise to supply agricultural workers with over a million tons of fertilizer a year; the old production facilities at the plant were modernized. In the course of this, the first superphosphate shop was converted to a new, improved industrial process, eliminating the discharge of fluorine gases into the atmosphere. Now they are being recovered and completely processed into products necessary to the national economy. This became possible due to putting the second aluminum fluoride shop into operation successfully.

According to the plan the capacity of the new complex should be put into operation in the course of nine months. The chemists have taken on the obligation of reducing this period three-fold. The first machines, loaded with field vitamins of excellent quality, have already gone off to Shemakhinskiy Rayon, which is in the charge of the superphosphate workers."

12151

CSO: 1821

CHEMICAL INDUSTRY AND RELATED EQUIPMENT

USSR CHEMICAL INDUSTRY MINISTRY RESPONDS TO CRITICISM

Moscow IZVESTIYA in Russian 19 Jul 79 p 1

[Article: "They Are Hoping"]

[Text] The article, "Arteries of the Economic System" (IZVESTIYA, No 296), noted that the active work of the Ministry of the Chemical Industry with respect to optimizing and reducing the distance of freight hauling was inadequate. The ministry is taking additional measures to improve this work. In order to reduce the transport of nitrogen and phosphate fertilizers to the republics of Central Asia from the European part of the USSR, new capacities for 2.8 million tons are being put into operation, including those at the Almalyk Chemical Plant and at the Samarkand and Chardzhou superphosphate plants. In addition, in 1981-1985 capacities for the production of 2.5 million tons of ammophos will be put into operation.

The production volume of a low-concentrate fertilizer--hydrous ammonia--is to be considerably reduced according to the plan. The large production volume of hydrous ammonia at the present time stems from the fact that many enterprises producing mineral fertilizers, due to a shortage of covered railroad cars, are forced to reduce production of solid fertilizers and to use some of the ammonia to produce hydrous ammonia.

As for the inefficient transport of apatite concentrate for the enterprises of the Ministry of the Chemical Industry that are located in the Uzbek and Kazakh SSR's, in 1979 these hauls were discontinued.

12151

CSO: 1821

CHEMICAL INDUSTRY AND RELATED EQUIPMENT

POTASSIUM PLANT PROBLEMS

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 14 Aug 79 p 3

[Article: "We Name the Ones Lagging Behind"]

[Text] Rural workers in the vast expanses from the Volga to the Far East are waiting for the output of the natural deposits of potassium salts. Often they do not obtain the extremely necessary "field vitamins": since the beginning of the year the Uralkaliy Association has owed 2.3 million tons of fertilizers.

The reasons for the lagging behind are the irregular work flow of the factory, the low amount of extraction of nutrients from the raw material, a sharp deterioration in the quality of the concentrate and the growing volumes of rejects. This is the direct result of the flagrant violations of the industrial process, which contribute to idle time for the equipment and a shortage of skilled workers. The shortages in material-technical supply also have their effect--interruptions in the supplies to the conveyor belt, cable and other output. Repair of the machines and mechanisms is poor and for a long time the machine and repair plant has not been staffed with machine operators.

At the same time, the association's warehouses are jammed with fertilizers: in July alone it was over 4,000 railroad cars short for loading, and even half of those that are supplied are in urgent need of repair. There must be an increase in the shipments of potassium products by water, but the RSFSR Ministry of the River Fleet is putting off expansion of the mooring facilities for an indefinite period.

The work done by Uralkaliy was recently discussed at a joint meeting of the collegiums of the Ministry of the Chemical Industry and the Ministry of Railroads. Many organizational-technical measures were outlined, directed toward correcting the situation that has been created. Time will tell how efficient they will be. Meanwhile, however, the association is short 10-15,000 tons of the valuable product a day.

CHEMICAL INDUSTRY AND RELATED EQUIPMENT

FERTILIZER COMPLEX AT RUSTAVI LAGGING BEHIND IN EXPANSION

Moscow PRAVDA in Russian 25 Jul 79 p 1

[Article by I. Vorontsov and A. Krichevskiy: "The Increase at Rustavi"]

[Excerpts] The construction workers and chemists at Rustavi have not yet provided the large increase in the capacities for the output of mineral fertilizers. By the beginning of November, production facilities for dilute nitric acid and ammonium nitrate will be put into operation, and by the first of December--for ammonia. The plans are bold ones, and the deadlines are rigid.

Not only this is characteristic of the Rustavi Chemical Plant today, however. The scale of the construction and installation work also draws attention. As compared with last year their volume doubled and should be about 16 million rubles worth. But then the total capacity of the enterprise for the production of mineral fertilizers will also double after these shops are put into operation.

Specialists from Trust No 1 of Zakavkazmetallurgstroy drew up a schedule for each alteration. Whereas before work was conducted by one administration, two more have now been transferred here. Each of them is entrusted with a specific section, determined as an independent complex. For example, the fourth administration concentrated its efforts on putting into operation the capacities for ammonium nitrate production, the eighth--for the dilute nitric acid complex and the third--for the ancillary facilities.

High rates were set up. Nevertheless, the plan is not being fulfilled: the subcontracting collectives cannot sustain the smooth flow of construction work at the proper level due to the lack of equipment and materials. Installation work here constitutes over 50 percent of the total volume. Here is one of the characteristic examples. As far back as April, preparations began for meeting the large group of workers from the Kalininskoye Administration and other subdivisions of the USSR Ministry of Installation

and Special Construction Work, who were to come here a month later. Three dormitories were built for them. Instead of the promised 650 persons, however, only 150 have arrived at Rustavi so far.

Not only the subcontractors are to blame for this. The buyer also shares with them the responsibility for the situation that has developed. At the end of June the construction project was still short over 260 units of industrial equipment. The work rates are being adversely affected by the lack of two cranes--the BK-1000 tower crane and a 30-ton overhead crane, which should have arrived long ago from Orekhovo-Zuyev and Bataysk. According to the plan for organizing the work, these mechanisms were intended for use in the process of constructing the new shops.

The complaints among the installation workers with respect to the incomplete provision of pipe assemblies for the facilities are particularly strong. Right now there are no industrial lines for this. The sites are literally heaped up with a muddle of "tonnage," which no one can sort out. Therefore, precious days and weeks are spent in searching for a certain specific assembly, instead of ten minutes.

What about the buyer? The management of the enterprise has still not assigned the contractor the installation workers for his assistance. It is a pity.

12151

CSO: 1821

CHEMICAL INDUSTRY AND RELATED EQUIPMENT

BRIEFS

AMMONIA PIPELINE CONSTRUCTION--Gorlovka--Filling in has begun of an 800-kilometer ammonia pipeline from Gorlovka to Odessa--the first section of a unique steel main line to pump liquid ammonia, being laid down to the Black Sea port from the city of Tol'yatti. The throughput of the ammonia pipeline is so great that it will permit the Gorlovka Stirol Association to release dozens of tank cars a day from shipment of the product. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 5 Aug 79 p 1] 12151

LIQUID PARAFFIN UNIT--Novokuybyshevsk--The first large-tonnage unit in the country to obtain liquid paraffins by the Pareks method has issued its product at the Novokuybyshevsk Petroleum Refinery. The equipment for it was purchased in the German Democratic Republic. It was constructed by collectives of trusts No 25, Neftekhimmontazh and their associated workers. A total of 2000 tons of industrial equipment and 150 kilometers of pipelines was installed here. Competition was organized along the lines of the "workers' relay race." The unit will produce raw material to obtain detergents. [Text] [Moscow STROITEL'NAYA GAZETA in Russian 5 Aug 79 p 1] 12151

PARAFFIN PRODUCTION FACILITY--Novokuybyshevsk--The first Pareks type unit in the country, with a productivity of 120,000 tons of pure paraffins a year, was put into operation at the Kuybyshevnefteorgsintez Production Association. This output is needed by livestock breeders to prepare protein-vitamin concentrates. The Neftekhimmontazh installation workers cut in half the time for installing the basic industrial equipment. Their experience will be useful in constructing 15 more similar units to be built in the country. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 22 Jul 79 p 1] 12151

ODESSA PORT PLANT--Start-up and adjustment work was begun at the second section of the Odessa Port Plant four months ahead of schedule. The experience and skill accumulated in constructing the first section of the large complex helped in the rapid and efficient construction of the complex facilities. Inspired by the congratulatory message of Comrade L. I. Brezhnev on the occasion of its ahead-of-schedule launching, the construction workers are mobilizing all their reserves in order to complete the

construction of the entire enterprise by 15 September, and not by the end of the year, as was intended. [Excerpts] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 21 Aug 79 p 1] 12151

AMMONIA UNIT COMPLETED--Cherkassy--The collectives of the Cherkaskhinstroy Trust and organizations of the USSR Ministry of Installation and Special Construction Work, erecting new capacities for the Cherkassy Azot Association, completed the first half of the year with shock work. They fulfilled the six-month plan at the large-tonnage ammonia unit under construction by 110 percent. In developing the success achieved, the construction and installation workers pledged themselves to turn the complex over for operation a month ahead of the deadline. [Text] [Moscow STROITEL'NAYA GAZETA in Russian 5 Aug 79 p 1] 12151

SULFURIC ACID COMPLEX--Cherepovets--At the chemical plant here construction and installation work has practically ceased at the complex for sulfuric acid production. This happened because the buyer--the Ministry of the Chemical Industry--did not seek funds to finance the construction project. [Text] [Moscow STROITEL'NAYA GAZETA in Russian 5 Aug 79 p 1] 12151

AMMONIA PRODUCTION--Novomoskovsk--At the beginning of the year the collective of the Novomoskovskkhinstroy Trust and its subcontracting organizations took on the obligation of putting into operation the ammonia unit at the Azot Association a month ahead of the plan--in June of this year. So far, however, the complex has not been turned over for operation: the general contractor not only could not unite the efforts of the associated workers, but itself constantly violated the contractual obligations and delayed the provision of a work front for the installation workers. In addition, even today the construction project has not yet been fully provided with the necessary equipment and shut-off fittings. [Text] [Moscow STROITEL'NAYA GAZETA in Russian 5 Aug 79 p 1] 12151

CARBAMIDE COMPLEX--Dneprodzerzhinsk--the carbamide complex of the Azot Production Association is threatened with a disruption in being put into operation. Due to late issuing of the planning estimates and a shortage of material-technical and labor resources, the Dneprokhinstroy General Contracting Trust now, when less than six months are left to the launching, completely lacks a work front for the machine installation workers. [Text] [Moscow STROITEL'NAYA GAZETA in Russian 5 Aug 79 p 1] 12151

BY-PRODUCT COKE PLANT--A very large by-product coke plant is being built in the region of the Zarinskaya station located at the Kuzbass-Altay railroad. With the completion of its construction industrial enterprises at the country's east will be fully provided with high-quality technological fuel. The commissioning of the first coke furnace battery was delayed several times. During the 7 years from the beginning of plant construction one-third of the planned 54 million rubles was not utilized. During these summer days, when the most favorable time of the year for speeding up plant construction has arrived, it is important to utilize every hour and to efficiently organize work in two standard shifts. It appears, however, that this indisputable truth was forgotten there. The Altaykoksokhimstroy Trust does not know how many people work in the second shift. Whereas in the first shift there is a shortage of transport facilities, hoisting mechanisms and welding units, in the second shift, with a small exception, equipment is idle. The new date for commissioning the coke furnace battery is the second half of 1980. However, if the managers of the Altaykoksokhimstroy and Glavaltaystroy continue not to value time, the new date may not be met. [Text] [Moscow STROITEL'NAYA GAZETA in Russian 4 Jul 79 p 1/ 11,439]

POLISH SULFURIC ACID TO USSR--Eighty kilometers from Moscow, in Voskresensk, a sulfuric acid plant recently began operation after 28 months of construction. This is the thirtieth such plant furnished to the Soviet Union by Poland. The installation has a yearly capacity of 500,000 tons. At the same time, the Voskresensk mineral fertilizer combine "Minudobreniye" has started construction of a second sulfuric acid plant equipped by the Poles. This plant, which has the same capacity as the first one, is to be ready in 1981. A third 500,000-ton capacity plant is to be delivered within the next few years. Poland is also supplying the Voskresensk combine with part of the necessary raw sulfur. Already over 40 percent of the total Soviet sulfuric acid production is now coming out of Polish plants. By the end of 1980 this figure will rise to 45 percent. [Text] [Bonn DIE WIRTSCHAFT DES OSTBLOCKS in German 6 Jul 79 p 7]

CSO: 1821

CONSTRUCTION, CONSTRUCTION MACHINERY AND BUILDING MATERIALS

SETTING OF NORMS FOR WORKING CAPITAL OF CONTRACTING ORGANIZATIONS

Moscow FINANSY SSSR in Russian No 7, Jul 79 pp 26-30

[Article by R.M. Azamatova: "Questions on Setting of Norms for Working Capital of Contracting Organizations"]

[Text] Orientation towards achieving high final results in the production activities of contracting organizations, under conditions involving stern financial responsibility for the proper utilization of working capital, represents one of the principal trends for improving the economic mechanism of construction.

In this regard, we consider it necessary to examine the status of norm setting for the working capital of contracting organizations. The conversion over to accounts for a finished project and for work stages in construction has brought about an increase in the amount of unfinished production lying on the balance of contracting organizations and in the sources for covering it, which form by no means on an economic accountability basis. Economic accountability presupposes optimum support, in the form of monetary resources, for both the capital and operational expenses of a contracting organization. Any deviation from the optimum threatens to weaken interest in the final results. It is our opinion that the optimum variant for financing current activities is possible if the contracting organizations allot their own working capital in amounts equalling the constant and stable surpluses, with the expenses occurring above these amounts being covered by bank credit.

It is obvious that the effectiveness of the economic accountability mechanism can be ensured only when clear limits are established for the internal resources of contracting organizations. Here the requirement for minimal constant and fixed expenditures can serve as the criterion.

The establishment and development of a system of economic control, oriented towards an intensive type of functioning, are creating new conditions for the activity of a contracting organization. One such principal condition is that of expanding the independence of the latter in the formation and use

of working capital. It is our opinion that in a system of economic accountability, with stern financial responsibility being displayed, the norm for working capital must be determined using the consolidated method.

At the present time and in connection with the maintenance of accounts for finished projects and work stages, the amount of unfinished production continues to increase and economic independence is determined by the availability of internal working capital for covering the expenditures incurred in this regard. Moreover, the advance form for organizing them predominates. Internal working capital for unfinished production is only being allocated for those who maintain accounts by projects, with intermediate payments, and for those who add the funds of customers, allocated for unfinished production.

It bears mentioning that the advances of customers, transferred for temporary use, are formed on a non-economic accountability basis and thus bring about a considerable weakening in economic control over the volume of unfinished production for the contracting organizations.

For example, let us take the "Kabbalkpromstroy" Trust where unfinished production increased by 36.3 percent during the 1975-1977 period, while at the same time the overall volume of contractual work increased by only 4.8 percent. At the same time, the advances of customers increased by 53.9 percent. The excessive growth in unfinished production is explained not only by the spread of progressive accounting forms but also by growth in the number of projects and stages not turned over to the customers in a timely manner. During this period, their cost in the trust increased by 17.5 percent.

The system of providing advances appears as a type of two-edged sword. On the one hand, the contracting organization uses, free of charge, advances provided by the customers, within the limits of the actual construction schedules. This creates an economic climate which makes it possible to have working capital over and above the minimal amount required, since it is presented in an amount corresponding to the volume of unfinished production at the end of the year and this amount is not always minimal in nature. As a result, the advances provided by the customers replace the bank credit and weaken the effectiveness of economic accountability. On the other hand, the free use of temporary working capital is very costly, so to speak, for the contracting organizations.

First of all, the contractor becomes completely financially dependent upon the customer. The opening of financing on a tardy basis and the transfer of advances necessarily affect the financial status. For example, the construction of the SU-7 Palace of Culture for the "Kabbalkpromstroy Trust" was begun in May 1976. The customer, the UKS [Administration of Capital Construction] attached to the Council of Ministers for the Kabardin/Balkarak ASSR, opened financing on 4 May 1977 and transferred an advance of 50,000 rubles on 5 July 1977.

Secondly and in conformity with the existing financing system, if a customer lacks the funds for transferring over to a contracting organization, the bank provides credit for a period of 45 days. However the customer rarely resorts to this, since the need for paying a percentage is reflected in his principal activities. Quite often there are cases of a bank being unable to furnish credit owing to the absence of a credit limit.

Thus the advance form for organizing working capital is not the most successful form, nor is it as flexible as some economists tend to believe*. It does not promote the maintenance of economic accountability interests in reducing unfinished production and creating stable economic accountability sources for covering expenditures.

At the present time, advances by customers predominate in the source structure for working capital. Data is furnished in Table 1 for the Kabardino-Balkarsk ASSR as of 1 January 1978 (in annual percentages).

TABLE 1

Trusts	Internal Working Capital	Temporary Working Capital	Bank Credit
"Kabbalkpromstroy"	0.14	92.4	7.46
"Kabbalkgrazhdanstroy"	-	95.7	4.30
"Kabbalksel'stroy"		90.1	9.90

Only the "Kabbalkpromstroy" Trust has internal working capital for covering expenditures for unfinished production and then only for projects and accounts for which intermediate payments are made. The role of credit is negligible. The advances furnished by customers amount to from 90.1 to 95.7 percent.

It is our opinion that the formation of working capital for covering expenditures for unfinished production should be carried out by means of internal working capital and bank credit.

The system for allocating internal working capital must stimulate the effective use of such capital, ensure greater maneuverability and flexibility and promote greater financial responsibility among the contracting organizations.

With the spread of the system of accounts for finished projects and work stages, an increase is taking place in surplus unfinished production on the balance of a contracting organization. As a result, there is no basis for the statement that the establishment of a norm for unfinished production

* R. Gukasov, "Ruble in Circulation," PRAVDA, 30 November 1977

according to its minimum planned surplus, as called for in the Instructions on the Setting of Norms for the Working Capital of Contracting Organizations, will lead to a constant and considerable participation of credit in the formation of working capital for this purpose and in such a case internal working capital will be purely symbolic in nature and this will undermine the basic principles of economic accountability.

The above statement should never have been overlooked when initially converting over to the progressive accounts, at which time the minimum planned surpluses of unfinished production for 60 percent of the contracting organizations were at the level of 10 percent of the work volume.

At the present time, 98 percent of the SMR [stroitel'no-montazhnaya rabota; construction-installation work] carried out by contracting organizations in the Kabardino-Balkarsk ASSR are covered by progressive accounts and the minimal level of unfinished production during the last 3 years amounted to 76.6 percent of the volume of SMR carried out using internal resources. Thus, in the interest of strengthening the financial base of contracting organizations and intensifying the effectiveness of economic accountability, a persistent need exists for implementing the setting of norms for working capital based upon a minimum planned surplus.

A study of the status of actual surpluses of unfinished production for months during the 1975-1977 period revealed that minimum surpluses existed either at the beginning or at the end of the year (see Table 2).

Thus it is forbidden to determine the normative level for the planned volume of unfinished production at the beginning of the year, owing to the fact that it is minimal throughout the year.

First of all, in those instances where the planned surplus for the end of the year is minimal, refinancing becomes necessary for the contracting organization. Moreover, if the level of unfinished production is considerable, then the refinancing is expressed in a large absolute amount. Thus a deviation of 0.1 percent for contracting organizations in the Kabardino-Balkarsk ASSR is equivalent to from 1 to 2.7 million rubles.

Secondly, the establishment of a norm for the amount of surplus unfinished production (at the beginning of the year), determined by the level of this surplus at the end of the year preceeding the one being planned, does not excite interest in the contracting organizations for lowering it, since the norm for the following year is approved on this basis. In principle, a similar situation develops when the planned surplus in unfinished production at the end of the year is approved as the norm: the contracting

* "Oborotnyye sredstva kapital'nogo stroitel'stva" [Working Capital of Capital Construction], Moscow, Stroizdat, 1977, p 64; Kolesnikova, M.R. EKONOMIKA STROITEL'STVA, No 4, 1978, p 49.

organizations, not having been assigned economic accountability responsibility for above-plan increases in unfinished production, do not strive to reduce it and thus they increase the norm.

The spread of the principle of payments for the use of resources limits the demands of the contracting organizations for working capital formed on a non-economic accountability basis and thus it becomes possible to indicate clearly the limits for internal working capital

TABLE 2

Level of Unfinished Production by Trusts in the Kabardino Balkarsk ASSR
(in % of work volume carried out using internal resources)

Trusts	1975		1976		1977	
	At beginning of year	At end of year	At beginning of year	At end of year	At beginning of year	At end of year
"Kabbalkpromstroy"	78.0	77.4	76.6	95.6	97.0	109.2
"Kabbalkgrazhdanstroy"	84.7	113.4	142.5	138.2	88.9	100.8
"Kabbalksel'stroy"	104.0	91.2	91.2	101.4	101.4	85.1

In the case of contracting organizations which have been allotted internal working capital for unfinished production, it should be recognized that the norm for the latter is not sufficiently sound. Actually, in conformity with the instructions, a norm for unfinished production, under conditions involving accounting for finished projects and work stages, embraces both unfinished production and expenditures for projects and stages on which the construction has been completed and presented for delivery to the customers, that is, already in the sphere of circulation. This is in conflict with the actual disposition of working capital in the spheres of circulation and it leads to inflated norms for unfinished production. On the whole, the total norm for unfinished production turns out to be understated in the sphere of circulation.

The norm for internal working capital for unfinished production is determined using the formula*:

$$N = Z t_{\eta} k_{H,Z},$$

where Z -- 1-day expenditures

t_{η} -- duration of production cycle;

$k_{H,Z}$ -- coefficient for growth in expenditures.

Moreover, t_{η} includes both the time of internal production t'_{η} and the time of circulation (t_0) -- for accepting projects into operations, for extracting and formulating the accounting documents.

* Norm computed according to planned production cost.

Thus,

$$N = Z(t_{\pi}' + t_0) \cdot k_{H.Z.},$$

or

$$N = Zt_{\pi}'k_{H.Z.} + Zt_0k_{H.Z.}$$

This expression confirms the conclusion that the norm for unfinished production is inflated for $Zt_0k_{H.Z.}$. The overall norm for unfinished production and for covering expenditures in the sphere of circulation is understated by the sum $Zt_0(1-k_{H.Z.})$.

The economic significance of the coefficient for growth in expenditures derives from the fact that it reveals the degree of readiness of a project undergoing construction and it expresses the ratio of unfinished production to the estimated cost and thus we always have $0 \leq k_{H.Z.} < 1$. With the realization of all expenditures $k_{H.Z.} = 1$.

Taking this into account, the total norm must be:

$$N = Zt_{\pi}'k_{H.Z.} + Zt_0,$$

that is, more approved for

$$Zt_0(1-k_{H.Z.}).$$

It seems to us that the isolating of expenditures in the sphere of circulation and setting norms for them might be more advisable. This is true in view of the fact that finished construction products are created during the production process and this output becomes an element of the working capital in the circulation funds.

Under conditions involving an intensification of construction production, the apportionment within the plan of the item entitled "Finished Construction Output" and the setting of norms for expenditures in this regard will respond to the actual disposition of the working capital by circulation stages and ensure financial sources for the final stage.

When the accounting was carried out by means of intermediate payments, the contracting organizations were allocated internal working capital for this purpose in the amount of 10 days of indebtedness. At the present time and in connection with the maintenance of accounts for finished projects and work stages, difficulties have arisen in connection with an objective determination of the norm for the element "Customers According to Accounts for Work Carried Out." Thus a norm has not been established since 1975 and the remaining direct source for covering expenditures for the final stage in the circulation of resources (bank loans) is not fully covering the requirements for working capital. In 1977 the requirements for working capital were satisfied by only 0.02 percent. The movement of working is a single, continuous and planned process. The planning must embrace all of its elements.

In accordance with the item "Finished Construction Output," norms should be set for the resources from the moment that a project is accepted and delivered until finally payment is made by the customer for the payment documents. In this regard, the expenditures for the acceptance-delivery time for projects and stages and also for the time required for preparing the payment documents should be withdrawn from the unfinished production structure and considered in connection with finished construction output.

The separating out of the commercial portion of the overall volume of construction-installation work, by projects and stages to be turned over to the customer during the year being planned, is making it possible to carry out the setting of norms for finished construction output.

A study of the dynamics of the actual surpluses for the item entitled "Customers Upon the Presentation of Bills for Work Carried Out" and of the volume of construction-installation work for projects and stages to be turned over to the customer, by months during the 1975-1977 period, in contracting organizations in the Kabardino-Balkarsk ASSR, revealed the following. The trend in the movement of the liabilities of customers and the volume of contractual work turned over to a customer coincides for the most part: the volume being delivered grows -- the liabilities of the customers increase and conversely. A sharp deviation is observed only during the fourth quarter. This is associated first of all with the non-rhythmic placing in operation of projects. As a rule, they are turned over for operation at the end of the year (in the Kabardino-Balkarsk ASSR, an average of 50-70 percent of the annual volume is placed in operation during the fourth quarter).

A second and important aspect is the fact that under conditions in which the activity of a contracting organization is evaluated according to the volume of work at projects and stages turned over for operation and the moment of realization is considered to be that moment when the documents confirming the delivery of the project or stage are presented to a bank for collection, the contractors often "wash their hands" of projects having imperfections. In 1977, at the Kabardino-Balkarsk office of USSR Stroybank [All-Union Bank for the Financing of Capital Investments], such projects constituted 8 percent of the projects and stages not turned over to the customers in a timely manner.

The contracting organizations report on projects and stages delivered (plan fulfillment) during the reporting period and contributions are made to the economic incentive funds before the money for a delivered project has been received.

In the Kabardino-Balkarsk office of USSR Stroybank, the average period between the turning over of projects to the customers and the presentation of accounts to the bank by the contracting organizations was as follows: in 1975 -- 14-26 days, in 1976 -- 14-27 and in 1977 -- 15-28 days.

Thus, rhythmic work by the contracting organizations and the conversion over to evaluating sales according to receipts are providing a more sound system for setting norms for working capital during the final stage.

The norm for finished construction products can be determined based upon the estimated cost for the projects and work stages delivered, the planned schedules for turning them over for operation and the number of days from the moment that the acceptance-delivery document for a project or stage is signed until the money is delivered to the contractor.

Within the framework of the system of stern material responsibility for the utilization of working capital, a determination of the clear limits for internal working capital raises the validity for planning credit requirements, it strengthens the financial base of the contracting organizations and the efficiency of the entire economic accountability mechanism and it intensifies the reality of fulfillment of obligations by the contractors.

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CSO: 1821

METALURGY

REDUCING METAL WASTES THROUGH SILICON CARBIDE

Moscow PRAVDA in Russian No 213, 1 Aug 79 p 2

[Article by I. Zhabin, Engineer and L. Tager, Candidate of Technical Sciences, Elektrostal', Moscow Oblast]

[Text] Each year, the national economy requires more metal, including alloy steels. Production of alloy steel is quite expensive. The higher the degree of alloying, the more difficult it is to work the metal. Of all known methods, abrasive finishing is the most widely used. This method is currently used to work millions of tons of metal. In the past 5 years alone, the demand for abrasive tools for roughing and finishing of rolled products has more than doubled.

Until recently, the wastes from abrasive processing, a mixture of metal chips and the products of wear of the abrasive tools themselves, were not utilized. Tens of thousands of tons of valuable materials, with a high content of alloy steel, were (and still are) dumped into the waste heaps of metallurgical plants. Only nickel-containing wastes are used even today, and these not completely. The nonferrous metallurgy enterprises extract only one component from these wastes. All the other components — chromium, tungsten, molybdenum, vanadium — are lost irrecoverably. According to incomplete reports, each year the loss of alloying metals amounts to many hundreds of tons, costing more than 20 million rubles. The problem of utilization of metal abrasive wastes is also important in terms of pollution of the environment, since the resins which they contain are practically not subject to natural degradation.

As early as 1972, metallurgists came to the conclusion that an abrasive mass should have a combination of properties allowing the wastes produced in grinding of steel to be utilized. How could this be done in practice? For example, high-speed steels should be finished using disks of silicon carbide. This material not only has high abrasive capabilities, but also makes it possible to refine the metal as it is melted. This allows the wastes to be utilized...

With the cooperation of the Machine-Tool Ministry, an essentially waste-free process was created for abrasive finishing of metals. The use of new tools for powerful, high-speed grinding increases the production rates of processing by an average of 30%, significantly improving the conditions of labor of workers. After grinding, the content of metal is over 90%.

The scientists and engineers of "Elektrostal'" Plant near Moscow have found a technical solution to the problem of melting these materials, have developed the process. As a result, metals are now being produced at this plant of widely varied chemical composition and purpose, made with the traditional charge materials. The experience of the workers at Elektrostal' has been shared with other enterprises in the ferrous metallurgy industry as well. In the past year alone, the use of the wastes produced in grinding of alloy steels and other alloys has achieved a savings of over 2 million rubles.

This year, the machine-tool and tool industries have planned to produce 25 thousand disks for power grinding, replacing some of the tools still manufactured by the abrasives industry using old technologies. However, this quantity can hardly satisfy the demands of metallurgists, who consume about 100,000 disks per year. True, the workers of the machine building industry have promised to increase the capacity of the Kosulinskiy Abrasives Plant to 75,000, and of the Chelyabinsk Production Union to 25,000 high-speed disks per year. But this will not happen soon - sometime near the end of the 11th 5 year plan. To wait this long means to allow a tremendous quantity of valuable material to blow away with the wind.

We believe that the time has come to construct a special section at the Kosulinskiy Abrasives Plant. The total sum of capital investments required would be 3 million rubles. Some of the equipment which would be needed began to arrive last year. However, it is impossible to open the new shop without the required mechanical and electric power equipment.

The shop for manufacture of special synthetic corundum at the Chelyabinsk Abrasive Plant is being slowly reconstructed. There are a number of other problems which, in our opinion, require solution. For example, the Chemical Industry Ministry now satisfies less than 1/3 of the demand for special binder materials, while the Ministry of Nonferrous Metallurgy last year produced only 260 tons, instead of the 330 tons of products required by the abrasives industry. A great deal of the benefits of the new technology would extend beyond ferrous metallurgy plants. The wastes of old fashioned grinding are written off as cinder, i.e., "objective" losses.

The Party is orienting the development of the economy toward increasing the effectiveness of production and quality of products produced. The extensive introduction of high-power, high-speed grinding can increase the productivity of working of metals, improving the quality of rolled products and providing a significant savings of material resources.

METALWORKING EQUIPMENT

BRIEFS

WEST GERMAN MILL FOR USSR--Within the framework of an agreement worth 50 million DM, the West German firm Schiess AG., among others, will deliver to the Soviet Union an overhanging turning mill, the largest ever built, which will be capable of working pieces weighing up to 800 tons. [Text]
[Bonn DIE WIRTSCHAFT DES OSTBLOCKS in German 6 Jul 79 p 8]

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